CLAIMS

1. A method for making a block or gradient final (co)polymer comprising a step of radically polymerizing a mixture of ethylenically unsaturated monomers to an iodine atom-containing intermediate polymer, wherein the iodine atom-containing intermediate polymer comprises at least 50 mole% of methacrylate monomers, in the presence of c) a radical precursor and d) I_2 or a iodine chain transfer agent, followed by a step of radically polymerizing a mixture of ethylenically unsaturated monomers in the presence of a) a radical precursor and b) the iodine atom-containing intermediate polymer of the first step.

2. A method for making a block or gradient final (co)polymer comprising a step of radically polymerizing a mixture of ethylenically unsaturated monomers in the presence of a) a radical precursor and b) an iodine atom-containing intermediate polymer or a mixture of iodine atom-containing intermediate polymers, wherein the iodine atom-containing intermediate polymer comprises at least 50 mole% of methacrylate monomers and is obtainable from a polymerization of ethylenically unsaturated monomers.

3. The method according to claim 1 or 2 wherein the mole ratio iodine atom-containing intermediate polymer(s) b) : radical precursor a) is > 0.1n, wherein n stands for the number of radicals effectively generated per molecule of radical precursor.

4. The method according to any one of preceding claims 1-3 wherein the temperature during the polymerization step(s) is lower than 130°C, preferably lower than 110°C, even more preferably lower than 90°C, and most preferably lower than 70°C.

5. The method according to any one of preceding claims 1-4 wherein the polymerization step(s) is (are) performed in the presence of an epoxide-containing compound.

6. The method according to claim 5 wherein the mole ratio epoxide : iodine atom-containing intermediate polymer b) is > 0.01, preferably >0.05.

7. A method according to any one of claims 2-6 wherein the iodine atom-containing intermediate polymer is obtainable by polymerization of a mixture of ethylenically unsaturated monomers comprising at least 50 mole% of methacrylate monomers in the presence of c) a radical precursor and d) iodine or an iodine chain transfer agent.

8. The method of claim 1 or 7 wherein the mole ratio I_2 : radical precursor c) is between 0.05n and 0.5n, wherein n stands for the number of radicals effectively generated per molecule of radical precursor.

9. The method of claim 1 or 7 wherein the mole ratio sulfonyl iodide : radical precursor c) is > 0.1n, wherein n stands for the number of radicals effectively generated per molecule of radical precursor.

10. A method according to any one of preceding claims 1-9 wherein the iodine atom-containing intermediate polymer has a molecular weight of less than 10,000.

11. A method according to any one of preceding claims 1-10 wherein the final polymer is reacted further, with the iodine atom in the final polymer being removed, preferably by nucleophilic reaction, by heating, and/or by reaction with a radical-generating compound, optionally under reducing conditions.

12. Block or gradient (co)polymer obtainable by the method of any one of preceding claims 1-11.

13. Use of block or gradient final (co)polymer prepared according to any one of claims 1-11 in a film-forming composition, preferably a coating composition, adhesive or ink formulation, more preferably in automotive or industrial coating compositions.

14. Use of block or gradient final (co)polymer prepared according to any one of preceding claims 1-11 as rheology additive, surfactant, dispersant, adhesion promoter and/or flow improvement additive.